



CMSI-3232/1616/88

HDMI Matrix



Operation Manual



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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
RDV1	13/09/12	Preliminary Release

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1. INTRODUCTION

The Modularized HDMI Matrix series can route the signal of 32, 16 or 8 sources to any connected 32, 16 or 8 displays, providing resolution up to Full HD 1080p and WUXGA (1920x1200@60HzRB). Besides the regular matrix functionality, the matrix models are very attractive to the integrators because of their great flexibility, with the most advanced modularization design these models can be setup as a matrix of HDMI, DVI-D, or their any combinations (count with eight, for example, a matrix with 24-HDMI-in/8-DVI-IN and 16-HDMI-OUT/16-DVI-OUT), all you need to do is to swap the input or output modules as you wish.

2. APPLICATIONS

- Public information display
- Educational demo
- Professional Presentation
- Advertising display

3. PACKAGE CONTENTS

- 1 x Enclosure 3232/1616/88 (including control board, & power(s))
- 4 x Input Module Board (Optional)
- 4 x Output Module board (Optional)
- 2 x Power Cord/3232& 1616 or 1 x Power Cord/88

4. SYSTEM REQUIREMENTS

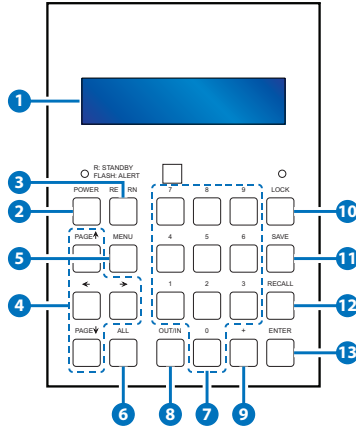
Input source equipments like DVD/Blu-ray players and output display TV/monitor with HDMI connection cables.

5. FEATURES

- HDMI, HDCP 1.1 and DVI 1.0 compliant
- Changeable input and output board
- Input and output module types can be mixed and added in increment of 8 from 8x8 up to 32x32 with HDMI, DVI and CAT5e/6/7 interfaces
- Supports LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio transmission
- Supports a wide range of PC and HDTV resolutions from VGA to WUXGA and 480i to 1080p
- Supports RS-232, Telnet and Ethernet controls
- Supports redundant power supply (on 3232 & 1616)
- HDMI cable length with a resolution 1080p/8bits&12bits the Input/ Output source can be 15/15m(8bit) and 10/10m(12) away
- EDID modes:
 - a. Automatic mode: Taking EDID from the lowest output port
 - b. Manual mode: Can assign any output to any input port
 - c. Standard mode: factory default

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



- 1 LCM:** Displays the setting information of each input and output and other setting information according to the selection.
- 2 POWER & LED:** This LED will illuminate when the power is in standby mode. If the LED is flashing it means the temperature inside is too high and air circulation is highly suggested.
- 3 RETURN:** Press this button to return back/exit the current selection.
- 4 PAGE ▲ ▼ ◀ ▶:** Use these buttons to flip the LCM's page for displaying the current I/O status or when entering into the menu for detail selection.
- 5 MENU:** Press this button to enter into the menu selections of
 - A. EDID
 1. Auto EDID: Base on the first connected output TV/Display's EDID from 1~32 ports.
 2. Standard EDID: Use the built-in EDID which supports video up to 1080p@60/WUXGA@60RB and audio supports LPCM 2CH.

3. Manual EDID: Support independent EDID by appoint input and output ports.

B. IP

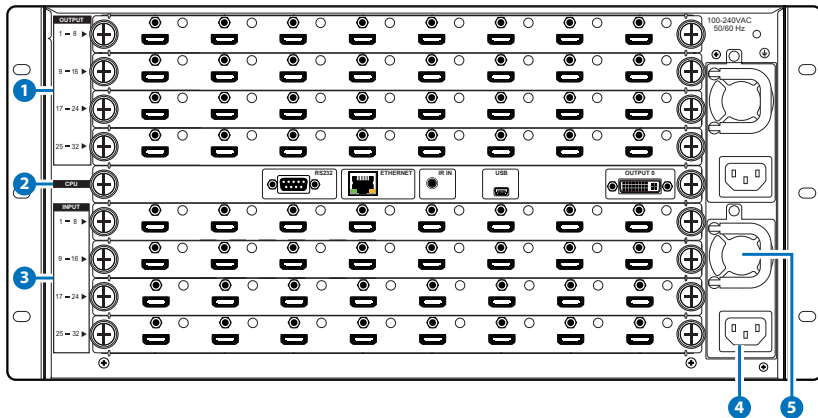
1. IP address,
2. Netmask,
3. Gateway.

C. Temperature

1. Temperature 1,
2. Temperature 2, these figures shows the temperature of the device inside.

- 6 ALL:** Press this button to select all outputs with one input.
- 7 0~9:** Press these numbers when selecting input output ports.
- 8 OUT/IN:** Press this button to select input source to displaying on output display. The sequence should be OUT/IN→number(s) for input source→OUT/IN→a number for output display→Enter.
- 9 +:** Press this button when selecting more than one output for an input selection. (This button works only under OUT/IN function)
- 10 LOCK & LED:** Press this button to lock all the function buttons on panel. The LED will illuminate, to unlock press it again.
- 11 SAVE:** Press this button to save the present setting of the I/O. There are 3 sets available for saving.
- 12 RECALL:** Press this button to recall from the saving settings of 1~3.
- 13 ENTER:** Press this button every time to confirm the setting or the selection.

6.2 Rear Panel



- 1 OUTPUT 1~32:** Connect HD/3D display TV/monitor with HDMI cables up to 32 displays.
- 2 CPU**
 - a. USB: This port is reserved for firmware update only.
 - b. IR IN: Reserved.
 - c. ETHERNET: Connect to an active network line for LAN serving and Telnet/Web GUI control.
 - d. RS-232: Connect with D-Sub 9-pin cable from the PC/NB device for RS-232 control over the device.
- 3 INPUT 1~32:** Connect source equipment such as Blu-ray/PS3 players up to 32 sets with HDMI cable.
- 4 POWER & POWER Supply:** When the device will automatically turns on when connecting with power supply.
- 5 Ventilation Fan:** This fan will automatically turns on when the device is switch to ON. Do not block this port of the device or cover it with any object. Please allow adequate space around the unit for air circulation

6.3 RS-232 Protocols

CMSI-3232/1616/88			Remote Controller	
PIN	Definition		PIN	Definition
1	NC	→	1	NC
2	TxD		2	RxD
3	RxD		3	TxD
4	NC		4	NC
5	GND	←	5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 19200bps

Data Bit: 8 bits

Parity: None

Stop Bit: 1

Flow Control: None

6.4 RS-232 & Telnet Command

HELP: Show Command list.

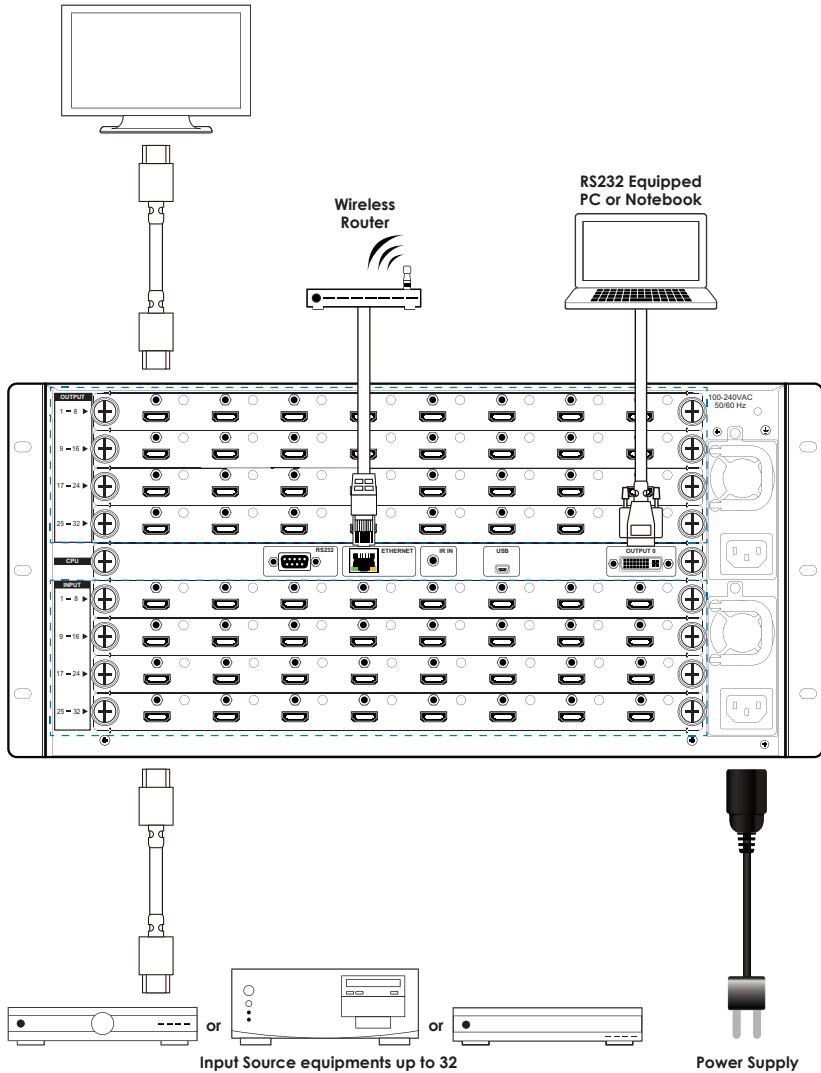
Command	Description
P0	Power Off
P1	Power On
RESET	System Reset to O1I1,O2I2,O3I3,O4I4,O5I5.... Reset
IPCONFIG	Display the current IP config
SETIP <IP> <SubNet> <GW>	Setting IP.Sbunet.GGateWay (Static IP)
RSTIP	IP Configuration Was Reset To Factory Defaults(DHCP)
Oxxlxx(x:01~32)	Output 1~32 set to Input 1~32
ALLOUT xx(x:01~32)	All Output set to Input 1~32
MUTE xx(x:01~32)	Video mute command at output interface
UNMUTE xx(x:01~32)	Video unmute command at output interface
HPDLOW xx(x:01~32)	Pull the Hot-Plug-Detect signal to 'LOW'
HPDHIGH xx(x:01~32)	Pull the Hot-Plug-Detect signal to 'HIGH'
STATUSIN xx(x:01~32)	Report Input connection status
STATUSOUT xx(x:01~32)	Report Output connection status
STATUSALL	Report ALL Output connection status
STATUSEDID	Report ALL INPUT EDID mode&port
SETEDIDMODE ii mm(ii:01~32 mm:0~2)	set EDID mode(mm)to Input(ii)
SETEDIDPORT ii pp(ii:01~32 pp:01~32)	Set EDID Assigned Port(PP) to Input(ii)
ACTIVE	Report I/O active channels
INDETECT	Input channels detect indicator
OUTDETECT	Output channels detect indicator

SHOWMUTE	Show mute status of all output(0=not muted,1=muted)
SETIPADDR <IP>	Setting IP address
SETSNMASK <SubNet>	Setting subnet mask
SETWADDR <GW>	Setting gateway IP address
RDIPADDR	Display the current IP address
RDSNMASK	Display the current subnet mask
RDGWADDR	Display the current gateway IP address
Q	Display controller firmware version

Note: All the RS-232 command will be not executed unless followed with a carriage return. Commands are case-insensitive

7. CONNECTION DIAGRAM

Output Display TV/Monitors up to 32



8. SPECIFICATIONS

Video Bandwidth	225MHz/6.75Gbps
Input ports	32/16/8 x HDMI or DVI or CAT5e/6/7
Output port	32/16/8 x HDMI or DVI or CAT5e/6/7
Power Supply	2 x AC 110~240V (US/EU standards, CE/ FCC/UL certified)*3232 & 1616 1x AC 110~240V (US/EU standards, CE/ FCC/UL certified)*88
HDMI Cable I/O Distance	15m/8-bit I/O, 10m/12-bit I/O
Dimensions (mm)	482(W) x 369(D) x 226(H) 3232 482(W) x 388(D) x 144.5(H) 1616 482(W) x 380(D) x 100(H) 88
Weight(g)	15,000 (CMSI-3232HS)/ 12,500(CMSI-1616HS)/ 11,000(CMSI-88HS)
Chassis Material	Metal
Silkscreen Color	Black
Operating Temperature	0 °C~40 °C/32 °F~104 °F
Storage Temperature	-20 °C~60 °C/-4 °F~140 °F
Relative Humidity	20~90% RH (non-condensing)
Power Consumption	90W/88, 130W/1616, 230W/3232

9. ACRONYMS

ACRONYM	COMPLETE TERM



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